

VARIABLE GEOMETRY LAYERED HEATER

ABSTRACT OF THE DISCLOSURE

A layered heater is provided that comprises at least one resistive layer comprising a resistive circuit pattern, the resistive circuit pattern defining a length and a thickness, wherein the thickness varies along the length of the resistive circuit pattern for a variable watt density. The present invention also provides layered heaters having a resistive circuit pattern with a variable thickness along with a variable width and/or spacing of the resistive circuit pattern in order to produce a variable watt density. Methods are also provided wherein the variable thickness is achieved by varying a dispensing rate of a conductive ink used to form the resistive circuit pattern, varying the feed rate of a target surface relative to the dispensing of the ink, and overwriting a volume of conductive ink on top of a previously formed trace of the resistive circuit pattern.